Dec. 19, 1939. J. A. BUICK 2,184,092

FLASHING STRUCTURE

Filed March 7, 1938 2 Sheets-Sheet 1

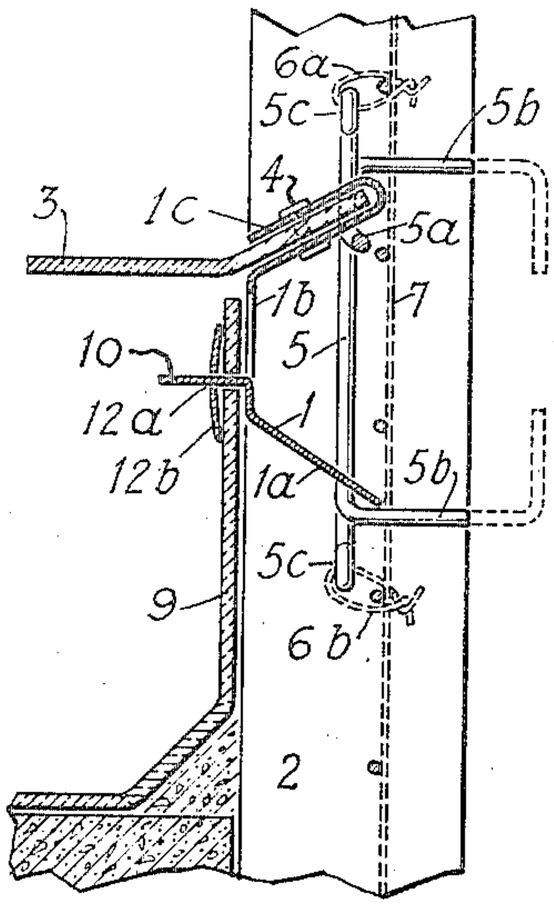

Fig. 2.

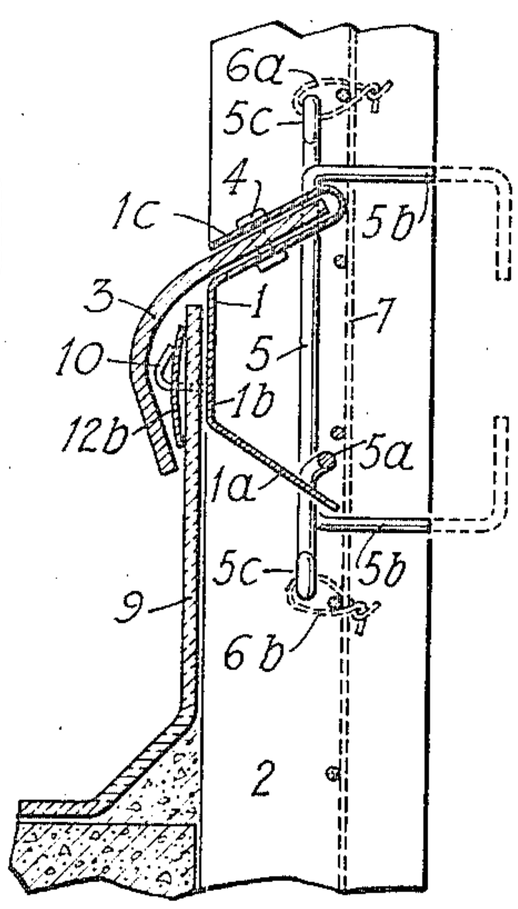

Fig. 3.

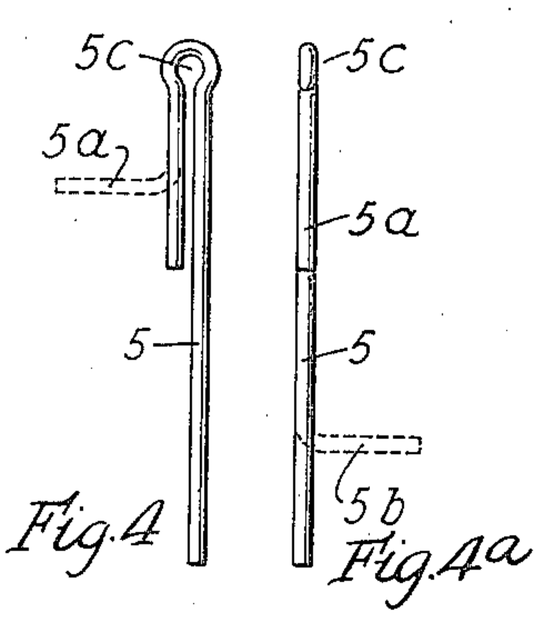

Fig. 4 Fig. 4a

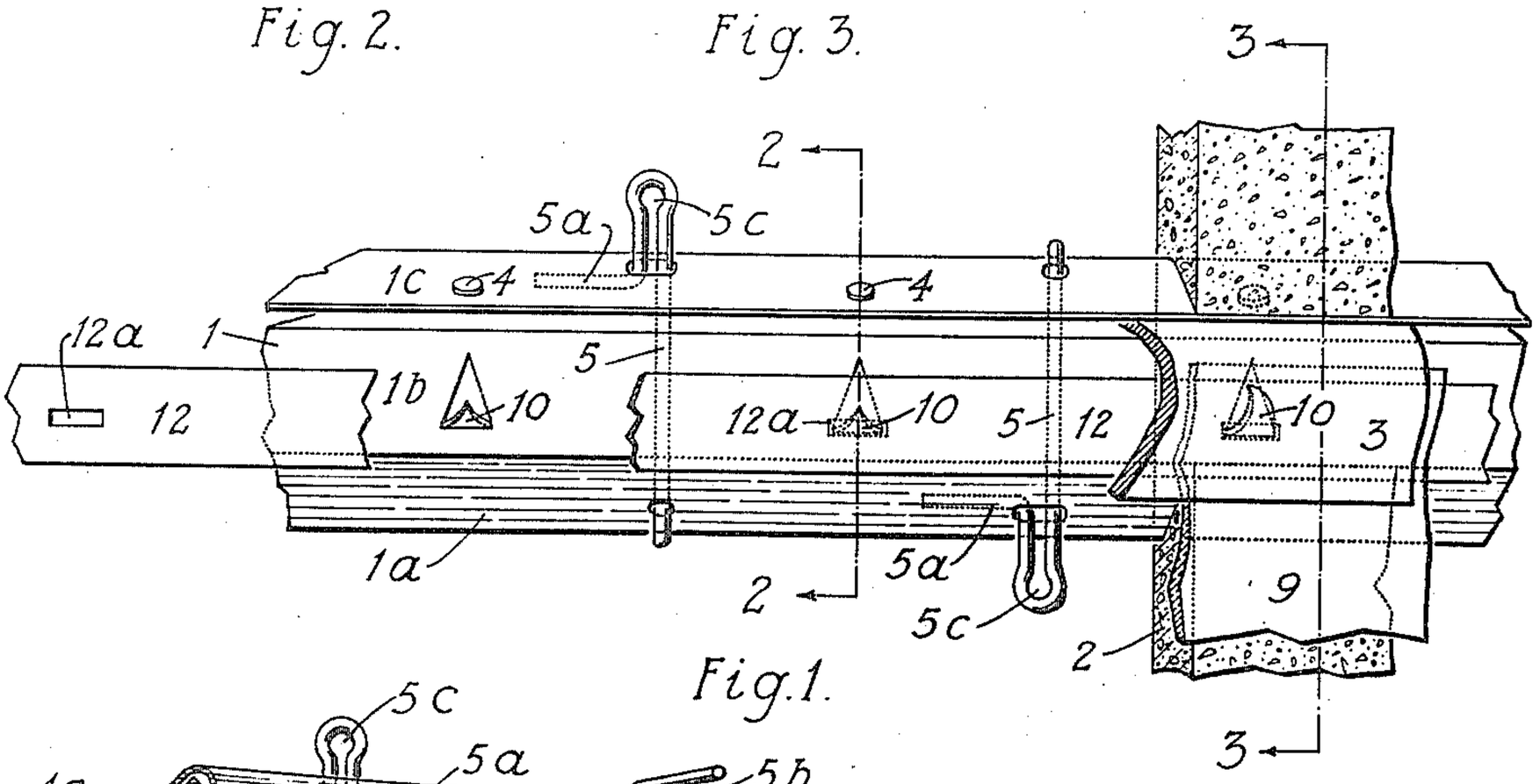

Fig. 1.

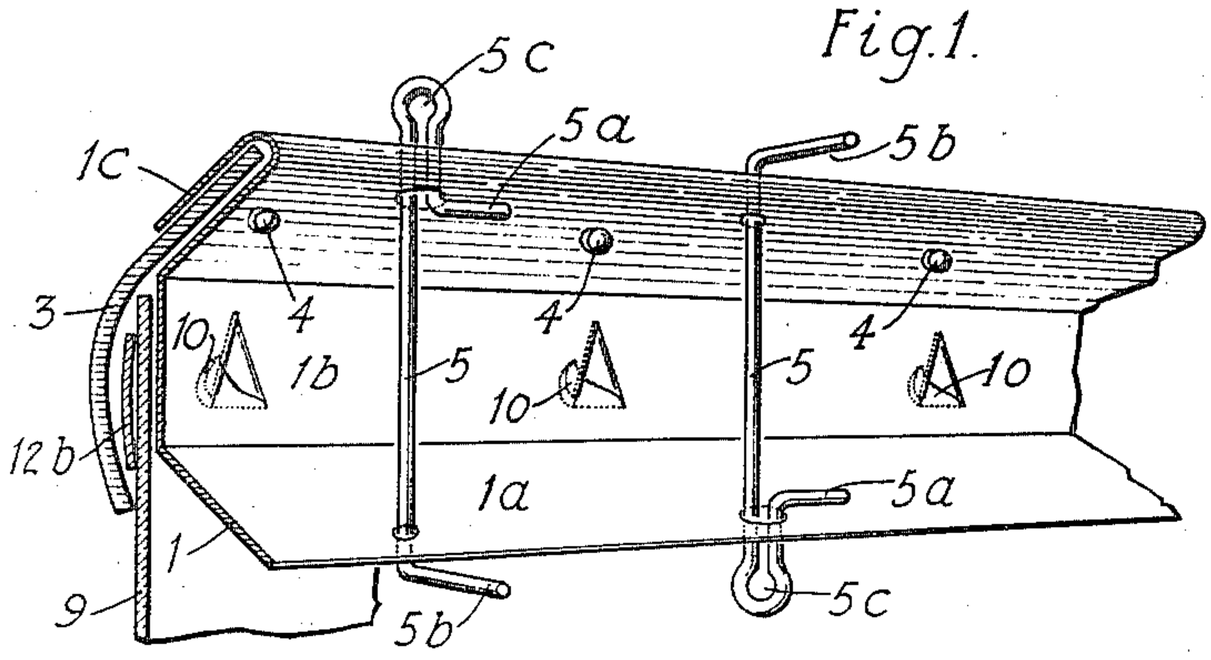

Fig. 5.

Inventor:
John Arlon Buick
per Swan Frye & Hardesty
Attorneys.

Dec. 19, 1939. J. A. BUICK 2,184,092

FLASHING STRUCTURE

Filed March 7, 1938 2 Sheets-Sheet 2

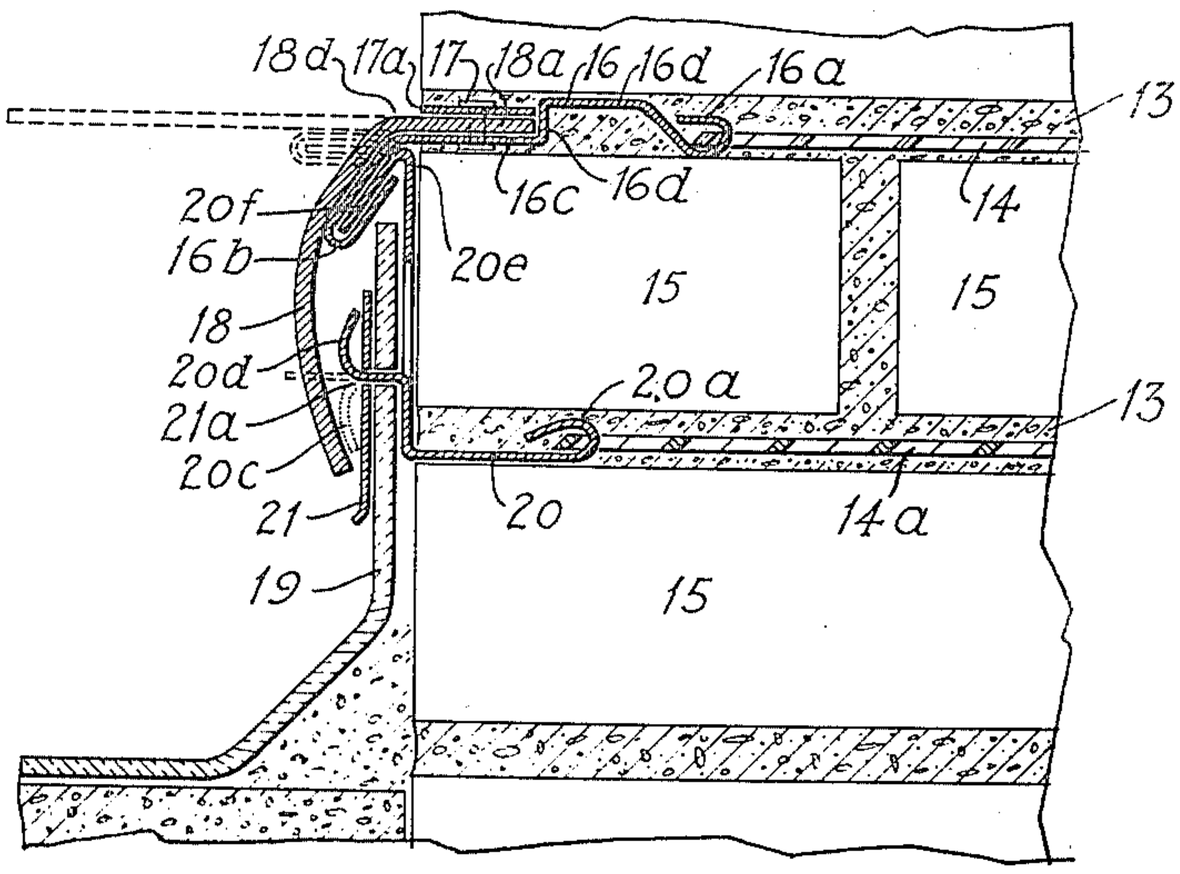

Fig. 7.

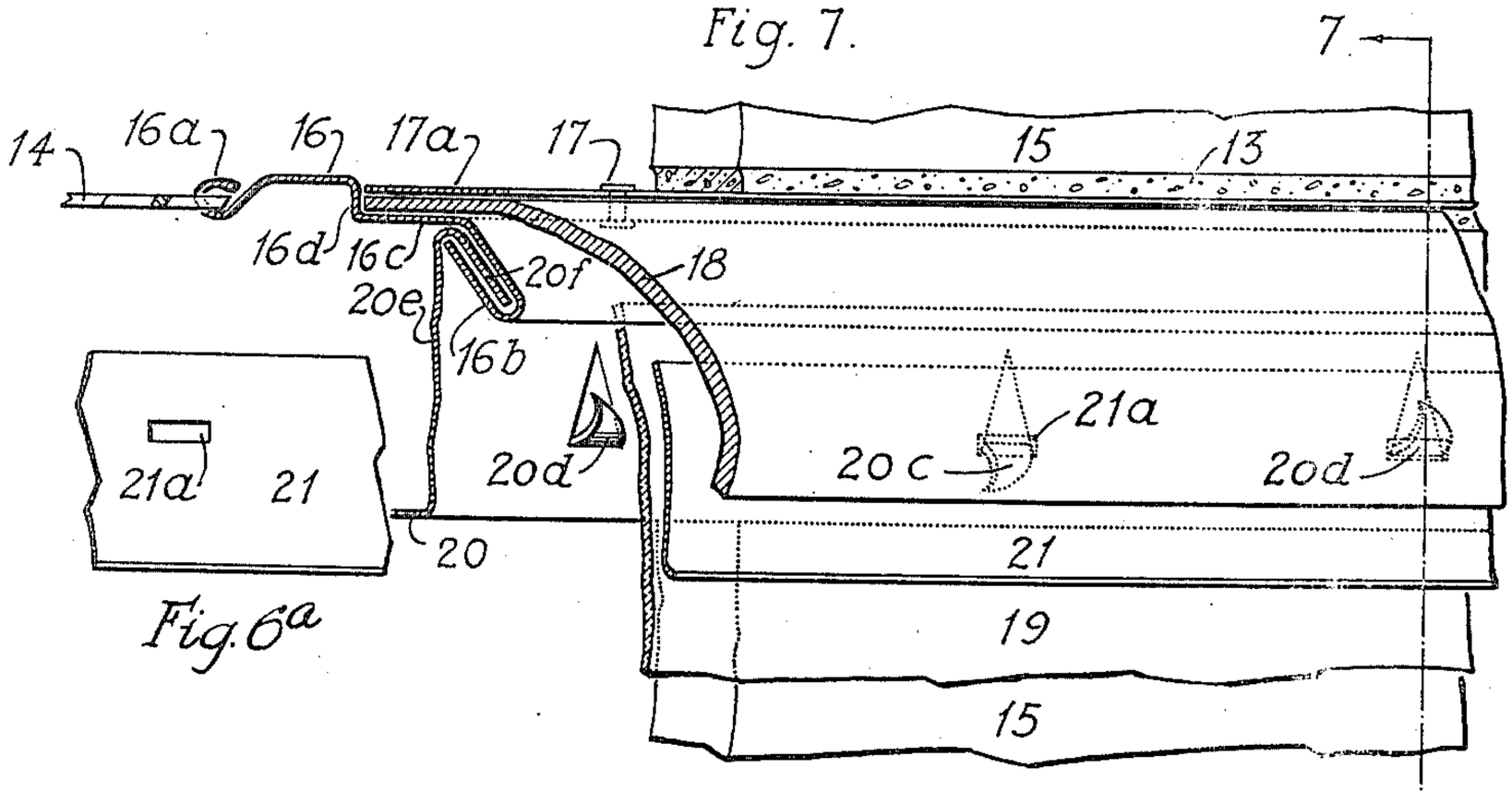

Fig. 6a

Fig. 6.

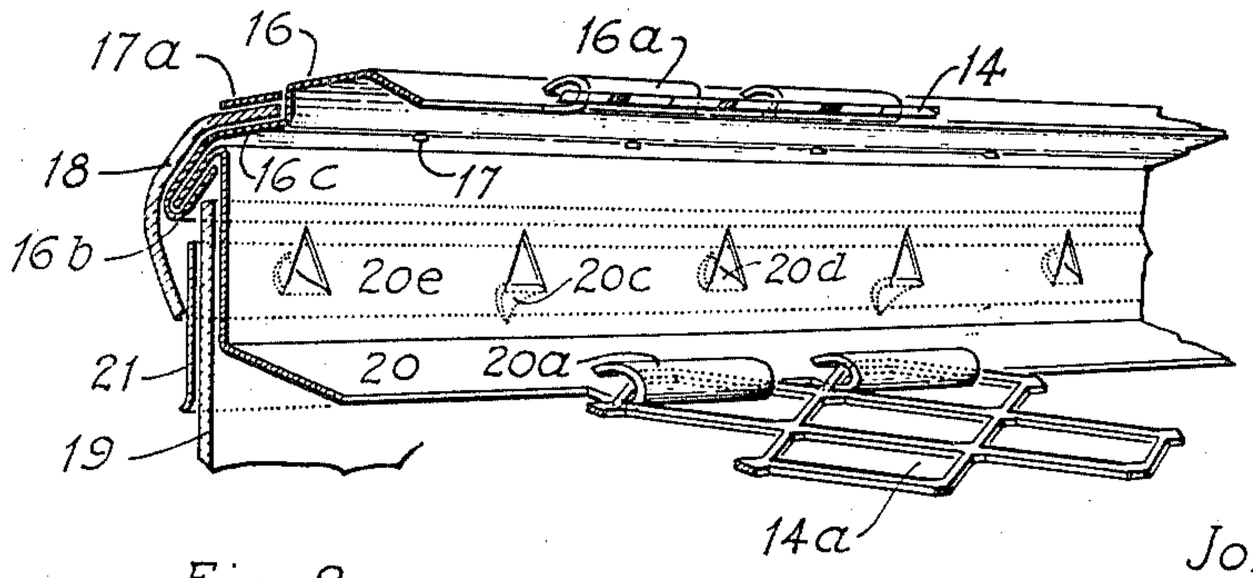

Fig. 8.

Inventor:
John Arlon Buick.
per Swan Frye & Hardesty
Attorneys

Patented Dec. 19, 1939

2,184,092

UNITED STATES PATENT OFFICE

2,184,092

FLASHING STRUCTURE

John Arlon Buick, Detroit, Mich.

Application March 7, 1938, Serial No. 194,316

1 Claim. (Cl. 108—26)

This invention relates to an improved building construction, relating particularly to the fastening of flashing screeds, of either sheet metal or other roofing material, to steel mesh reinforcing positioned in the vertical cement or brick walls of a structure, and has for its object the effective sealing of such a union against leakage, even when used in conjunction particularly with cement walls, of less than the usual thickness. While especially adapted to this use, it will be obvious that the organization of parts herein disclosed is adaptable without change of theory in the organization of parts to other and analogous uses.

In the drawings:

Figure 1 is a front elevational view of a section of the flashing in place relative to a supporting reinforced cement wall, with parts broken away to permit the detailed sectional disclosure of the normally interior parts.

Figure 2 is a sectional elevational view taken along the line 2—2 of Figure 1 and looking in the direction of the arrows there shown.

Figure 3 is a similar sectional elevational view taken along the line 3—3 of Figure 1 and looking in the direction of the arrows there shown.

Figure 4 is an elevational view of a wire anchorage piece disassociated from the other parts.

Figure 4*a* is a similar edge elevational view of a wire anchorage piece, with a dotted-line showing near the bottom suggesting the overbending of the lower end thereof for clinching purposes.

Figure 5 is a perspective view of this flashing screed taken from the rear, and with a portion of the marginal edge of the roofing material shown in position with relation thereto.

Figure 6 is a broken away perspective whose disclosed construction differs from what is shown in Figure 1 in that it is adapted particularly for use upon a brick wall with layers of mortar between the individual bricks, rather than a reinforced cement wall.

Figure 6*a* is an elevational view of the slotted metal strip or plate adapted to be clinched against the outer surface of the sheet of roofing material by means of the penetrating and laterally overbent prongs shown in Figure 6.

Figure 7 is a sectional elevational view taken along the line 7—7 of Figure 6 and looking in the direction of the arrows there shown, being designed to emphasize the modifications in contour of the parts, due to the use of individual bricks.

Figure 8 is a perspective of the modified form of construction illustrated in Figures 6 and 7, designed to bring out particularly the possible use of skeletonized or expanded metal lath pieces for forming the anchorage between bricks.

Referring first to the form of construction illustrated in Figures 1 to 5 of the drawings, 1 represents a channel-shaped sheet metal strip, having plain portions 1*a* and 1*b* and a deeply and narrowly overbent portion 1*c*, in which latter portion the edge of the metal flashing 3 is adapted to be inserted and thereafter fastened by means of rivets 4. The member 1, which may be supplied in any length which the particular structural conditions call for, is adapted to be positioned within the space bounded by the intended thickness dimension of the cement wall or similar structural element 2, so that, when cement is poured into this space and allowed to harden, this sheet metal part and its supported flashing 3 are definitely and permanently positioned in desired relation thereto. This positioning is conveniently effected, before the pouring of the concrete is begun, by the passage of the wire anchor members 5 through the top and bottom margins of the strip 1, either the lower end 5*b* or the upper end 5*a* thereof being adapted to be thereafter bent into horizontal positions within the wall as a whole, and the top loop 5*c* of the anchor member being secured by wire as 6*a* to the metal reinforcement 7 within the body of the cement wall, while the bottom end thereof is similarly attached, as by twisted looped wire 6*b*, to a portion thereof correspondingly lower within the cement wall. Since the ends of these overbent portions of the anchorage members are designed to reach to just the plane of the interior surface of the wall, that is to say, the right-hand side or edge thereof as shown in Figures 2 and 3, the thickness of the wall as a whole can thus be gauged, since the relation of the anchor member as a whole to the panel metal strip is known, as well as the length of the overbent portions of anchorage members.

With the parts above described in place, the marginal edge of the roofing piece, as 9, is then brought up along the left-hand face of the cement wall structure to a point just under the laterally projecting flashing piece 3, and is preferably penetrated by bent-up prongs 10, projecting from the adjacent portion of the web of the panel strip 1; the ends of these struck-up prongs are then bent over, as shown in Figure 3. These prongs alone are often sufficient to hold the roofing material tightly enough against the adjacent wall surface. If, however, it is desired to make the clinching effect of the prongs

even more effective, a washer, either of ordinary form or in the form of an appropriately slotted strip 12, may be positioned over the prong ends and against the exposed outer surface of the roofing material, before the points of the prongs are bent over. Such a possible modification is shown in Figure 1, the slots 12*a* being positioned the same distance apart as the prongs 10 on the sheet metal strip 1. And as brought out cross-sectionally in Figures 2 and 3, this metal strip 12 may, if desired, be slightly concaved from edge to edge as indicated at 12*b*, so that when the points of the prongs are finally clinched down, a definite compressive action against the adjacent surface of the roofing material is set up, tending to press it even more tightly against the adjacent wall surface. For the completion of the work the horizontally projecting flashing piece 3 is then bent down over the top edge of the roofing piece until its marginal edge practically engages the same at a point lower than its top edge. With the parts in this position, the access of water between the top edge of the roofing element and the adjacent surface of the supporting cement wall is rendered impossible.

In the form of construction illustrated in Figures 6, 7 and 8, such parts as the vertical reinforcements 7 for a strictly cement wall, together with the anchorage key members 5, are of course not present, since even with generous allowance for the presence of mortar between individual bricks, there is in a wall of that type no possibility for a vertical reinforcing member, since the bricks are arranged in staggered relation, as brought out particularly in Figure 7. In lieu thereof there is positioned in each horizontal layer of mortar 13 some form of expanded lath or similar metal webbing, as 14, which preferably stops short of reaching the left-hand outer surface of the wall, as constituted by the aligned bricks 15. In hooked engagement with suitably positioned loops of the webbing 14 are the overbent ends 16*a* of the plurally bent sheet metal pieces 16 which, as brought out in Figures 6, 7 and 8 preferably extend outwardly and downwardly in closely overbent form, beyond the surface of the wall. Attached to the section 16*c* thereof by the bolts or rivets 17 is the wall-contained end 18*a* of the protective piece 18; the top surface of this portion 18*a* may, for firmness of assemblage, be engaged by a plain strip 17*a*, through which the rivets 17 also pass. The thickness or height of the assembled parts 16*c*, 17*a* and 18*a* is roughly about, or slightly less than, the height of the centrally bent or troughed portion 16*d* of the sheet metal member. Of course the web of this latter as a whole primarily extends directly outwardly from the wall surface, as indicated by the dotted lines in the upper left-hand portion of Figure 7, being bent downwardly to the position shown in full lines only as the last step in the installation of the protective construction for the exposed and upturned edge of the roofing material 19.

In the next lower horizontal layer of mortar 13 from that wherein the sheet metal parts already described are positioned, a second sheet metal stamping, as 20, is hooked, as at 20*a*, to the forward edge of the inserted metal webbing 14*a*. Extending outwardly therefrom until the plane of the outer wall surface is reached, it is then bent right-angularly upward, and thereafter, again right angularly, outward, in position to penetrate and extend outward beyond the plane of the adjacent layer of roofing material 19, against whose outer face is preferably positioned a selectively slotted sheet metal strip 21, whose cut-away slots 21*a* are positioned at such distances from one another as to be in registry with the occurrences of these projecting prongs 20*c* and 20*d*, which after the strip or plate 21 is in position are bent over as shown, so as to clinch the plate or strip 21 and with it the adjacent portion of the roofing material as closely against the wall surface as the presence of the interposed and upwardly rising extension 20*e* of the sheet metal piece 20 permits. The overbent top portion 20*f* of this sheet metal piece engages within the correspondingly positioned and narrowly overbent portion 16*b* of the upper sheet metal piece 16. However, without the overengaging presence of the protective piece 18, water could make its way between the overbent top edge 20*e* of the lower metal reinforcing piece and the wall surface, hence the necessity of this protective and bendable piece 18, in order to thoroughly prevent the access of water between the top edge of the roofing material 19 and the wall surface. This protective piece 18 being now bent downwardly from the initial dotted line position shown in the upper left-hand portion of Figure 7, its lower and free edge reaches to, but does not necessarily actually engage, either the strip or plate 21 or the roofing material 19; but since any water falling upon its possibly exposed shoulder 18*d* and working its way inwardly from the plane of the wall surface would merely strike the outwardly facing angular edge 16*d*, the joint thus formed is effectively water tight against the ingress of dampness at any point.

What I claim is:

Means for supporting a flashing sheet in weather-protective relation to the margin of a roofing sheet when the latter is upturned against the surface of a vertical wall, comprising, in combination with such flashing sheet, a plurally bent sheet metal member adapted to be anchored within the mass of said wall with selected portions thereof lying in substantial coincidence with that surface of the wall against which the described upturned edge of the roofing sheet is positioned, said flashing sheet having on its exposed portion a series of penetrating projections adapted to serve as means for attaching the same to the adjacent edge of the roofing sheet, and the upper edge of the flashing sheet being adapted to extend inwardly of the mass of the wall to a position of propinquity to a portion of said included sheet metal member, and connecting members for structurally correlating the flashing sheet and said sheet metal member.

J. ARLON BUICK.